CLAIMS

1. Apparatus for applying ultrasonic energy to sewage slurry which comprises an applicator having an outwardly facing surface, the apparatus further including an extender which extends from the outwardly facing surface, and at least one booster at the end of the extender remote from the applicator for boosting ultrasonic energy applied thereto to cause the applicator to oscillate, wherein the applicator, extender and booster are integrally formed.

2. Apparatus according to claim 1 wherein the applicator has a central aperture defined by an inwardly facing surface.

3. Apparatus according to claim 2 wherein the inwardly facing surface oscillates when ultrasonic energy is applied to the apparatus.

4. Apparatus according to any one of claims 1, 2 or 3 wherein the integral applicator, extender and booster are formed from a rolled forged, or cast, material.

5. Apparatus according to any preceding claim wherein the integral applicator, extender and booster are formed from metal.

6. Apparatus according to claim 5 wherein the metal is an alloy.

7. Apparatus according to claim 6 wherein the alloy is a titanium-containing alloy.

8. Apparatus according to claim 5 wherein the alloy is a

titanium-aluminium-containing alloy.

9. Apparatus horn according to claim 8 wherein the alloy comprises titanium, aluminium, and vanadium in a molar ratio of 6:4:1.

10. A method of manufacturing apparatus for applying ultrasonic energy, which apparatus comprises an applicator having an outwardly facing surface, the apparatus further including an extender which extends radially from the outwardly facing surface, and at least one booster at the end of the extender remote from the applicator for boosting ultrasonic energy applied thereto to cause the applicator to oscillate, the method comprising integrally forming the applicator, extender and booster by a forging and/or casting process.

11. A method according to claim 10 which comprises cold forging, hot forging, enclosed forging, mould casting, die casting, low- and/or high-pressure casting.

12. A method according to claim 10 or 11 which comprises rolling and forging a material to form a component from which the integral applicator, extender and booster are formed.

13. A method according to claim 12 wherein the component is cut to approximate dimensions, and then machined to form the integral applicator, extender and booster.

14. A method according to any one of claims 10 to 13 wherein heat and pressure are applied to a material from which the integral applicator, extender and booster are formed in an enclosed vessel.

15. A method according to claim 14 wherein the heat is applied to the vessel by resistance elements.

16. A method according to claim 15 wherein the resistance elements comprise molybdenum resistance elements.

17. A method according to claim 14, 15 or 16 wherein the pressure is applied by blowing gas into the vessel under high pressure.

18. A method according to claim 17 wherein the gas comprises Argon.

19. Apparatus substantially as hereinbefore described with reference to the accompanying drawings.

20. A method of manufacturing apparatus, substantially as hereinbefore described.